Abstract:

A cache between a USB and a flash memory: The cache utilizes multiple banks of Magnetic Random Access Memory (MRAM). The size of each bank in the MRAM corresponds to the size of a sector in the flash memory. Initially,

5   the data received from the host is stored in one of the MRAM banks. At any particular time, data destined for only one sector of the flash memory is written in each particular MRAM bank. When an MRAM bank contains as much data as the capacity of a sector, the data stored in the bank is written to the corresponding sector in the flash memory. The MRAM has a relatively

10   high write speed and thus data can be written at the speed data is transmitted on the USB bus. Furthermore, the MRAM is a non-volatile storage device, hence, if the device is disconnected from the USB port on the host (or if power is otherwise removed), no data is lost.

15